PROGRESS REPORT

Northern Right Whale Research and Management Program

REGION:	NORTHEAST
PROPOSED EXPENDITURE:	$510.0K (FY-99)
ACTUAL EXPENDITURE:	$604.7K (FY-99)

PROJECT TITLE:	Management efforts to recover North Atlantic right whales
PROJECT CATEGORY:	Recovery and Conservation Research and Implementation
REPORTING PERIOD:	10/98 - 8/99
LEAD ORGANIZATION:	Northeast Region One Blackburn Drive Gloucester, MA 01930
PROJECT LEADER:	Doug Beach (doug.beach@noaa.gov)

OBJECTIVES:
To implement the elements of the Northern Right Whale Recovery Plan, the Atlantic Large Whale Take Reduction Plan, and judicially mandated measures pertaining to right whale recovery. The Northeast Region has the lead on implementation of the Atlantic Large Whale Take Reduction Plan (ALWTRP) which is attempting to achieve the Zero Mortality Rate Goal (the long-term mandate of the MMPA) for the four large whale species (right, humpback, fin, and minke). The main tools of the ALWTRP are a combination of broad gear modifications and time-area closures supplemented by progressive gear research, expanded disentanglement efforts, extensive outreach efforts in key areas, and an expanded right whale surveillance program.

There are four NER elements to the ALWTRP: gear research, disentanglement network, sighting advisory system, and NE implementation team. Therefore, there are four separate reports for each element of the ALWTRP, although the budget is combined in a final page.

PROGRESS REPORT - GEAR RESEARCH

PROJECT LEADER: Al Blott (ablott@efortress.com)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
October 1998-March 1999	Fisheries Engineering Group and PRD Staff attended six fisheries forums in New England the mid-Atlantic.
October 1998-July 1999	Fisheries Engineering Group and PRD staff designed and field tested biodegradable rope, experimental gillnet designs, and weak links.
April 1999	Held three GAG meetings in NER to address gear marking.
April 1999	Final Report received for acoustic release system.
July 1999	Make improvements on three deep water load cells.
June-September 1999	Continue measuring hauling and towing loads of lobster and gillnet gear from Rhode Island to Canada.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Date completed	Accomplishments and products
August 1999	Award small project contracts to fishermen for new gear.
August 1999	Award contract for bottom weak link (latching) system.
August 1999	Conduct gear marking and weak link research in Gulf of Maine.
April 2000	Contract final reports due.

PROGRAM RESULTS

The strategy for gear research is to investigate the current operating conditions in various areas where extreme oceanographic conditions must be dealt with when setting fixed gear. Recording underwater load cells (devices that measure force exerted on gear) are currently being deployed initially on gear set from Rhode Island to Canada. Less technical means of testing how much load is exerted on a fishermen s gear are also being used by fishermen and reported to NMFS gear experts. Through these tests we are building a data base to help what forces are induced in the gear under a variety of conditions and locations. Tests of weak links are being conducted for various breaking strengths, not just the level of the current regulations. Fishermen are using the test designs as well as their own ideas and are encouraged to report results to NMFS Fisheries Engineering Group.

Another strategy for gear research is to better understand; (1) how whales get entangled, (2) the dynamics of an entanglement (including the behavior of the gear and the reactive behavior of the whale), and (3) how much force whales can exert on gear. We are collecting detailed information and providing a gear analysis report on each entanglement and disentanglement effort that is attempted (11 entanglements have been investigated this year). Contracts have been issued to look into messenger systems and bottom weak links. An acoustic release buoy line system has been developed under a contract and a RFP for a thwartable breakaway system has been published. Some of the work is still ongoing, and final reports have been submitted for others. Once these efforts have identified new promising techniques, we have moved into the field testing phase of the techniques. Some of these tests (such as using experimental gillnet designs) have been accomplished with little additional cost, but studies of more technical devices such as the acoustic release devices require dedicated vessel time which is more expensive.

REPORTS

DeAlertis, J. 1999. Design, Testing, and Evaluation of an Acoustic Release System for Offshore Lobster Pot Buoy Lines. April 1999. 16pp.

NOAA. 1999. Report to Congress – Research on Fishing Gear Modifications to Reduce Entanglement of Large Whales. March 1999. 6pp.

Salvador, G., and J. F. Kenney. 1998. Preliminary Report – Gear Investigations with Underwater Load Cells. September 1998. 7pp.

PROGRESS REPORT - DISENTANGLEMENT

PROJECT LEADER: Dana Hartley (dana.hartley@noaa.gov)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
January-March 1999	Attended six fisheries forums and conducted seminars to educate fishermen.
March 1999	Prepare summary entanglement reports.
March 1999	Met with NC fishermen to provide information on ALWTRP, large whale ID, and Level I entanglement response.
April 1999	Establish new equipment caches in Maine and North Carolina.
May – June 1999	Provide training for USCG stations and ME DMF Marine Patrol.
July 1999	Renegotiate expanded contract for CCS.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Date completed	Accomplishments and products
July-September 1999	Continue at-sea Level II training for fishermen and USCG Stations.
January 2000	Enter entanglement data and deliver draft summary report.
February 2000	Annual report of contract activities.

PROGRAM RESULTS

There have been twelve confirmed reports of live entangled whales so far this year. Of these, the contractor has successfully disentangled three whales and has responded to and attempted disentanglement of several more. One whale was disentangled by an untrained fishermen whom the contractor later interviewed and determined that the whale was released free of most gear. As was the case in past years, successful disentanglements were dependent upon persons who first located the entanglement to be willing to stand by until an appropriate response can be initiated.

A major change in response has been efforts to disentangle right whales offshore. More entangled right whales have been sighted offshore this year due to increased sighting efforts of aerial survey crews and research vessels in the Great South Channel and other offshore areas. The offshore effort is hampered somewhat by the operational limitations of the contractor's vessels and human safety is the first consideration. In April 1999, a meeting was held to review the offshore disentanglement effort and to promote strategies to improve efforts in the coming year. Those present emphasized the importance of both aerial and vessel support to keep a mobile entangled right whales in sight. Additionally, the attendees agreed that not all disentanglements should be attempted offshore. In one case, the right whale was too strong and fast, and the entanglement was too close to the body to safely attach a satellite buoy. Further, buoy attachment to what appeared to be a light entanglement may have further compromised the entangled whale.

The disentanglement program continues to expand as evidenced by increasing number of trained personnel and gear from Maine to Florida. Two new equipment caches have been donated (IFAW) and/or purchased with alternate funding sources (Sea Grant) for placement in Maine and in North Carolina. The portable cache in New England is moved to Florida to cover that area in the winter months. The range of Level 1 trained persons has expanded to the southern New England and to North Carolina and the Mid Atlantic. Level 2 training has also been provided to fishermen and USCG Station personnel from North Carolina and in New England. Level 3 training has been provided to personnel in North Carolina and Maine; the North Carolina crew successfully disentangled a humpback whale this winter.

REPORTS

Hartley, D., and A. Blott. 1999. Entanglement Data Report for Atlantic Large Whale Take Reduction Team. NMFS – NER Protected Resources Division. February 1999. 17pp.

PROGRESS REPORT – SIGHTING ADVISORY SYSTEM

PROJECT LEADER: Pat Gerrior (pat.gerrior@noaa.gov)

ACCOMPLISHMENTS AND PRODUCTS TO DATE:

Date completed	Accomplishments and products
October 1998	Disseminated Early Warning System Partnering Document(1997).
December 1998	Met with SAS Partners (including MA and CG) to plan survey efforts for 1999 in state and federal waters and to establish survey and data collection protocols.
December 1998(mid)	MA conducted initial survey in Cape Cod Bay (CCB) Critical Habitat; 1 fax disseminated (5 RWs).
December 1998 (end)	NMFS NEC conducted aerial & ship survey efforts to obtain RW acoustic signals; 2 faxes disseminated (6 RWs).
January 1999	Met with NEC to establish survey and data collection protocols and reporting procedures.
January - February 1999	MA/CCS surveyed CCB; Total:16 survey days, 171 RW sightings.
January - February 1999	6 faxes from opportunistic reports: 4 RTW's in CCB and 1 off NY, 1 off Nantucket, 1 on Georges Bank.
March - June 1999	SUMMARY: • NMFS NER conducted 39 SAS flights on NOAA twin otter in the Great South Channel (GSC), Block Island Sound/NY, Platts Bank, Northern Edge of Georges Bank (GB), and Gulf of ME (GOM); • MA/CCS surveyed in CCB through late April; 42 survey days • Total NMFS SAS sightings:198 RTW, 419HBW, 543 FNW, 182 MNW, 20,000 other cetaceans, 616 seals, 5 sea turtles and logged approximately 15,000 n. miles of flight distance. • MA &NMFS Total - 750 RTW sightings from all areas; 17 opportunistic sighting reports.
January - July 1999	NMFS disseminated 92 RTW faxes that included 962 RTW's from CCB, GSC, Block Island Sound, NY, GB, GOM, and Canada.
April - June 1999	NMFS SAS flew verification surveys of opportunistic sightings in Block Island Sound, off Long Island, on Platts Bank, and on the northern edge of Georges Bank.
May 1999	NMFS SAS sighted 3 different individual RTW's entangled in gear in the GSC; provided aerial support on 2 attempted disentanglement efforts involving CCS and CG.
May - June 1999	Coordinated 6 different media (print and TV) on SAS flights and worked with several additional media personnel requesting to make flights.
July 1999	Met with NEC to review survey season and data processing.
July 1999	Implemented Mandatory Ship Reporting system and provided sighting locations to the automated MSR system(ongoing).
July - August 1999	Provided 2283 slides of RTW's to New England Aquarium (NEA) from 1999 NMFS SAS surveys.
January - August 1999	Attended Boston Port Operator's Group monthly meetings and provided status updates on RTW SAS survey efforts and sightings.

UPCOMING ACCOMPLISHMENTS AND PRODUCTS:

Date completed	Accomplishments and products
July - December 1999	Fly summer - fall verification surveys of opportunistic sightings as needed.
August - October 1999	Solicit Partners= statements of responsiblity to the SAS, edit and distribute Partnering Document.
September 1999	Meet with SAS Partners to review past survey season.
December 1999	Meet with SAS Partners and NEC to plan upcoming season's SAS survey efforts and protocols.
January 2000	Submit annual report.

PROGRAM RESULTS:

The Northeast Right Whale Sighting Advisory System involved primarily survey aircraft from the NMFS Region and the Massachusetts Division of Marine Fisheries which contracted with the Center for Coastal Studies. Additionally, the NMFS Center provided aerial support in May and June and the CCS research vessels conducted habitat and photo identification surveys in CCB (January - April) with the support of the Massachusetts Environmental Trust and others. These efforts have been the core of the RW SAS and been coordinated into a research effort that has yielded very important distribution, movements, entanglement and residency patterns of right whales in Cape Cod Bay, Great South Channel, and other areas. All SAS contributors are using similar observer and data collection protocols, coordinate survey track lines to maximize coverage, and provide survey data to the Right Whale Consortium Database maintained at the University of Rhode Island.

The Northeast RW SAS receives sighting reports from the aforementioned survey platforms and from opportunistic sources. These sightings are processed via an ARCINFO-based geographic information system with locations circled with a variable buffer zone. The sighting information is provided on a timely basis via faxes, radio broadcasts (Coast Guard and NOAA Weather), NAVTEX, voice communications by traffic controllers at the Cape Cod Canal, shipping agents, pilots, Internet web sites, Massachusetts Port Authority, a telephone hot line, and most recently, the Mandatory Ship Reporting system.

Right whale sightings are also received throughout the year opportunistically from a host of sources such as Coast Guard, whale watch vessels, marine mammal observers aboard a high speed ferry and a Massachusetts Water Resources Authority monitoring vessel, stranding network personnel, fishermen, environmental law enforcement agents, and others. A set of questions are typically used to verify species identification and an aircraft may also be deployed to validate these reports. Approximately 39 opportunistic reports have been received to date in 1999. Coast Guard provided the initial sighting of the concentration of right whales that occurred in April on Platts Bank proximal to the Portland Traffic Lanes. The NMFS SAS plane flew to the area the next day (and several subsequent days) and validated that there were right whales in this location. This Platts Bank residency had not been previously observed. Following up on last season's Block Island Sound sightings, the NMFS SAS plane made several flights in this area and located a mother and calf pair south of Long island and a single adult in Block Island Sound. The right whales did not appear to be distributed in the same numbers or time as the prior season nor did NMFS receive any opportunistic reports of additional whales in the area.

Shipping traffic, fishing vessels and fixed fishing gear were again recorded on the NMFS SAS surveys. This information is useful to study traffic patterns and possibly in the future, to corroborate a sampling of the MSR reports. The three gear entanglements sighted from the SAS plane this season marked the first entanglements observed during the northeast surveys and the first attempts to disentangle a large whale offshore. The SAS plane stayed on scene with the re-sighted RW for an extended period

allowing an effort involving CCS disentanglement personnel and Coast Guard to be mounted. It was the first time an entangled whale that had been sighted offshore was actually re-sighted.

The NMFS SAS Coordinator has sent 92 faxes which include reports of 962 RW sIightings observed from 1 January to date- 569 from CCB, 269 from GSC, 64 from GOM, 51 from GB, 4 from NY, 3 from Canadian waters, and 1 each from Rhode Island and south of Martha's Vineyard.

REPORTS:

Gerrior, Patricia. editor. October, 1998. The Northeast Right Whale Early Warning System 1997: A Collaborative Effort to Reduce Collisions between Ships and Whales, 9p.

Gerrior, Patricia. October, 1998.Strengths and Limitations of EWS Surveys: Northeast. Abstract for presentation at Right Whale Consortium Annual Meeting, 20 October 1998, 2p.

Gerrior, Patricia and C. Mantzaris.1999. Right Whales and Ships: Trying to Prevent Close Encounters, abstract for poster presentation at the 13th Biennial Conference on the Biology of Marine Mammals, November 29- December 3, 1999. 1 p

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PROGRESS REPORT - NORTHEAST IMPLEMENTATION TEAM (NE I-Team)

PROJECT LEADER: Sal Testaverde. , Ph.D. (salvatore.testaverde@noaa.gov)

ACCOMPLISHMENTS AND PRODUCTS TO DATE

Date completed	Accomplishments and products
September 16, 1998	NE I-Team Ship-Strike Subcommittee Meeting
September 17, 1998	NE I-Team Meeting
October 21, 1998	United States/Canada Bilateral Meeting on Right Whales,
November 5, 1999	NE I-Team Meeting
December 8, 1999	NE I-Team Ship-Strike Subcommittee Meeting
February 04, 1999	NE I-Team Meeting
February 24, 1999	NE I-Team sponsored Whale Watch Advisory Group
March 16, 1999	NE I-Team sponsored Whale Watch Advisory Group
March 17, 1999	NE I-Team Ship-Strike Subcommittee Meeting
April 6, 1999	NE I-Team Meeting
May 6-7, 1999	Southeast Implementation Team meeting in Brunswick, GA -
May 26, 1999	NE I-Team Ship-Strike Subcommittee Meeting
June 23, 1999	NE I-Team Meeting

UPCOMING ACCOMPLISHMENTS AND PRODUCTS

Date completed	Accomplishments and products
August 1999	Habitat Subcommittee meeting
September 1999	NE I-Team Meeting
October 1999	Humpback Whale Focus Group Meeting
October 1999	Award contract on "*Food Web Hypothesis for Endocrine Disrupting Chlorinated Hydrocarbons in Large Whales*".

PROGRAM RESULTS

The Northeast Implementation Team (Team) continues to focus on ship-strike and habitat issues. Internally, the team coordinator and Chairperson are updating the Operational Protocol to ensure that the Team will function in a consistent and fair manner. Both the Ship-Strike and the Habitat Subcommittee are operational, although, the majority of attention is dedicated to the ship strike-whale collision interaction.

Ship-Strike Issues

The Ship Strike Subcommittee's has emphasized production of education and awareness materials, especially with the mandatory shipping reporting system now operating within the critical habitat areas.

The Team approved the Subcommittee's strategy which has resulted in the following efforts: addition of substantial right whale information within U.S. Coast Pilot, NOAA nautical charts and other similar navigational documents [basic references designed to inform mariners of environmental conditions within the geographic whale occurring areas], development of a right whale brochure [education and outreach], partially Team funding a vessel sticker warning recreational vessels of the potential of collisions with right whales, an International Maritime Organization ship strike informational paper, establishment of a group of shipping industry technical advisors, the incorporation of endangered, workshop on right whale habitat prediction models, threatened species information into the International Safety Management Code and a functional mandatory ship reporting initiative. The Mandatory Ship Reporting initiative was developed by NMFS/NOAA with the Coast Guard into a mandatory ship reporting system which was submitted and accepted on December 1998 by the International Maritime Organization. The system became functional on July 1, 1999.

During 1998, a joint effort was initiated by northern east coast resource shareholders to produced an avoidance training/education video targeted at merchant mariners. Along with the Northeast Region via the Team, the agency participatory members include the United States Coast Guard, United States Navy, Canadian Department of Fisheries and Oceans, International Fund for Animal Welfare (IFAW), Gulf of Maine Council and the Massachusetts Environmental Trust. The video, a 15 minute production, was completed May 1999. An initial distribution plan has been devised and includes distributing videos to all federal and commercial vessels utilizing major ports in or adjacent to critical habitat area along the entire eastern seaboard, including Canada. All federal vessel will be included.

A special Ship Strike subcommittee/workshop was held, May 11, 1998, to explore concerns about the increase numbers of high-speed vessels operating off New England and potential interactions between whales and this class of vessel. The meeting was co-sponsored by the NOAA's Stellwagen Bank National Marine Sanctuary, New England Aquarium and the Team. The impetus to the meeting was the arrival a new high-speed ferry called ***The Cat*** operating between Bar Harbor, ME and Yarmouth, Nova Scotia. A working group was created to delineate whale concentrations within the Bay of Fundy, wherein the owner agreed to enter into a partnership arrangement to fund an analysis, including GIS plots, of the occurrence of cetaceans on or near the ferry route. And also agreed to carry out additional. These studies are largely complete.

An agreement has also been reached to continue the observer program on **The Cat** to help assess the risk of interaction with marine mammals. Likewise the whale observer on board the ferry is expected to continue training the crew to detect and avoid whales.

A number of whale watching issues became prominent due to the two whale watch vessel collisions with large whales on the Stellwagen Bank area during the summer of 1998. The Team responded by encouraging the formation of an ad hoc Whale Watch Advisory Group. This group met on February 24 and March 16, 1999. The following day, the Ship Strike Subcommittee met and developed three recommendations to the Team which were discussed and approved at the April 6, 1999 meeting. The three recommendations are: 1. publish revised whale watch guidelines, 2. examine what authorities are available to regulate the speed of vessels within the jurisdiction of the United States for the protection of large whales, and 3. that NMFS publish an Advanced Notice of Proposed Rulemaking (ANPR) on whale watching. We have reviewed the guidelines as recommended and published a brochure to increase awareness of the new guuidelines. We are working with Stellwagen Bank NMS and the USCG Auxiliary to monitor compliance with the new guidelines. We have examined the existing authorities to regulate vessel speed and reported the findings to the Team, and we are in the process of publishing a whale watching ANPR.

Further, as of May 1999, a joint effort has begun to developed a cooperative voluntary program between shipping companies plying coastal waters off the east coast of the United States and the Canadian maritime provinces. The objective is to develop a cooperative agreements between individual shipping companies, both U.S. and foreign flagged, that operate vessels routinely through northern right whale habitats. A funding partnership was established among the National Marine Fisheries Service via the NE I-Team, Georgia Department of Natural Resources, Marine Mammal Commission and the Canadian Department of Fisheries and Oceans. The Team is funding more than 75 percent of this shipping voluntary program.

Habitat Issues

In 1997, the Habitat Subcommittee proposed the development of a right whale habitat model for the entire east coast. Two meetings were conducted to set the scope of work necessary for the task and to develop a preliminary list of the model's elements. Among the recommendations to the Team was the development of a predictive model for the Great South Channel area. The predictive model would be used as a management tool, predicting which side of the Channel the whales would "set up" on. This information would be used to aid shipping traffic in avoiding right whale areas as the vessels

moved onto the Boston Harbor Shipping Lanes. Funds have been provided to develop this model.

The Northeast Fisheries Science Center (NEFSC) conducted a workshop to discuss development of a predictive model linking environmental variables to the distribution of right whales in the western North Atlantic in October 1998. A report is available from the Northeast Center. This Subcommittee's recommendations led to the partial funding by the Team of a proposal, "The Relationship Between Northern Right Whale...Sightings and Satellite-Derived Sea Surface Temperature Fronts in Great South Channel, Gulf of Maine.".

The Team is initiating a long term investigation of PCBs/chlorinated pesticides in the food web via the investigation of sand lance contamination uptake studies to determine bioaccumulation within large endangered species. The Team first entered into a partnership program the Environmental Protection Agency (EPA), in which they provided a year's study of sand lance contamination load. Following the completion of the study, the Team entered into a partnership with NEFSC Sandy Hook lab to continue studies of sand lance contamination loads.

The Team liaison is also addressing issues regarding the Massachusetts Water Resource Authority (MWRA) NPDES permit for the Boston harbor sewer project. The Team noted that the outfall's effluent may adversely affect the ecosystems and food webs of these bays and strongly supported inclusion of a requirement that MWRA develop a scope of work to create a food web model for the bays. A scope of work was generated by MWRA; however, MWRA is awaiting review of this issue by the overseeing agencies.

Plans are being prepared for the next Implementation Team's meeting in Fall 1999, and it is expected that we will discuss more active involvement by all Team members. Members will be encouraged to develop specific partnership roles pertaining to recovery task priorities. The step down outline from the updated Recovery Plan will be reviewed with member assignments delegated, and Team members will be expected to accomplish the priority tasks assigned.

REPORTS

J. Hain. 1999. Mitigating Vessel/Whale Collisions by the Bar Harbor to Yarmouth High-speed Ferry. Draft Report to NMFS. June 1999.

P. J. Clapham (Editor). 1999. Predicting Right Whale Distribution. Report of the October 1-2, 1998 Habitat Workshop. Woods Hole, MA. January 1999. 41pp.

ALWTRP BUDGET (FY-99)

Gear Research	Proposed	Actual	External
Labor and benefits	0	$75.0K	
Outreach contract extension to 3/00 (Salvador)	0	$20.0K	
Travel and per diem	$10.0K	$11.8K	
Mini-grants or contracts with fishermen for gear tests	$29.0K	$26.2K	
Investigate other remote release mechanisms	$20.0K	$16.7K	
Strength testing of gear and modifications	$10.0K	$8.0K	
Analysis of forces exhibited by entangled cetaceans	$10.0K	0	
Feasibility study of biodegradable rope	$20.0K	$2.0K	
Supplies	$6.0K	$4.0K	
Equipment (nets, rope, buoys and trap gear)	$10.0K	$4.0K	
Sub-Total	**$115.0K**	**$167.7K**	**0**
Disentanglement			
Labor and benefits	0	$99.2K	
Network Infrastructure (Insurance, network management)	$82.0K	$80.0K	
Coverage for events (15)	$60.0K	$76.3K	
Equipment caches (2)	$38.0K	0*	
Training	$20.0K	$25.0K	
Sub-Total	**$200.0K**	**$280.5K**	**0**

* Two equipment caches were donated from outside sources (IFAW and Sea Grant

NOTE – FY-98 funds carried over in the contract, covered disentanglement operational costs up to February 1999. NMFS committed a total of $186.3K of FY99 funds to the disentanglement contract to carry it through FY99, and extend coverage five months into FY00 (February 29, 2000) from the following sources: (1) $91.3K from NER Protected Resources FY99 funds and (2) $90.0K transferred from unobligated end of the year funds ($45.0K from NER Fisheries Management funds and $45.0K from F/PR).

Sighting Advisory System			
Contract observers (2) @ 6 months	$35.0K	$24.0K	
NOAA Aircraft Charter - GSC Surveys through May	$100.0K	$68.6K	$80.0K
Equipment and Travel	0	$8.3K	
Out-of Season verification flights	$25.0K	0	
Sub-Total	**$160.0K**	**$100.9K**	**$80.0K**
NE Implementation Team			
NE I-Team and Sub-Committee meetings	$5.0K	$4.6K	
Support for NE I-Team studies or specific recovery actions			
* High Speed Ferry Study	$10.0K	$1.3K	
* Contamination/Food Web Study	$10.0K	$4.0K	
* Habitat and GSC predictive models	$10.0K	$24.9K	
* Volunteer Shipping Initiative	0	$15.3K	$5.0K
* Ship Strike Video	0	$1.5K	$5.0K
* Whale watch brochures	0	$4.0K	
Sub-Total	**$35.0K**	**$55.6K**	**$10.0K**
TOTAL	**$510.0K**	**$604.7K**	**$90.0K**

Total - $694.7K Base - $316.2* PPA - $150.0K External - $90.0K RPS - $145.0K**

* $45.0K added from NER Fisheries Management base funds to cover disentanglement contract shortfall.
** $45.0K added from F/PR RPS funds to cover disentanglement contract shortfall.

PROGRAM PERSONNEL:
Chris Mantzaris, ARA for Protected Resources, ZP-480-05-01, permanent.
Douglas Beach, Large Whale Plan Coordinator, ZP-482-04-02, permanent.
Pat Gerrior, SAS Coordinator, ZP-482-04-01 permanent.
Dr. Sal Testaverde, NEIT Liaison, ZP-482-03-03 permanent.
Al Blott, Gear Research Coordinator, ZP-830-04-02, permanent.
John Kenney, Gear Research Technician, ZP-830-03-02, permanent.
Dana Hartley, Disentanglement Coordinator, ZP-401-03-01 permanent.